METHODS AND COMPOUNDS FOR MODULATING MALE FERTILITY

Cross Reference To Related Applications

This application claims priority from co-pending U.S. Utility Application Serial No. 09/239,867, filed January 29, 1999, which claims benefit from U.S. Provisional Application Serial No. 60/073,001, filed January 29, 1998 (now abandoned).

now US. Pat. No. 6,331,412

Background of the Invention

The invention relates to apoptosis in cells, particularly cell involved in fertility.

Apoptosis is a fundamental process of cell death required for the elimination of unwanted cells in multicellular organisms and involves an ordered cascade of events leading to hallmark morphological changes including nuclear condensation, chromosome laddering, and membrane blebbing. In one specific example, apoptosis plays a prominent role during all stages of sperm development. Spermatogenesis is a process that results in the generation of mature sperm cells from primary germ cells, and some of the events affected by apoptosis include the elimination of unwanted cells and the prevention of the death of those cells destined to become functional sperm (Hsueh *et al.*, Recent Prog. Horm. Res. 51: 433, 1996; Furuchi *et al.*, Development 122: 1703, 1996).

Much of the current knowledge of the biochemical pathways involved in apoptosis comes from the study of viruses. The baculoviral proteins involved in apoptosis, CpIAP and OpIAP, are characterized by two amino terminal cys/his motifs (Xaa_3-R-Xaa_{20-23}-G-Xaa_{11}-C-Xaa_2-C-Xaa_{16}-H-Xaa_6-C-Xaa_3) (SEQ ID NOs: 6-9) and a carboxy terminal C-Xaa_2-C-Xaa_{11}-C-Xaa-H-Xaa_3-C-Xaa_2-C-Xaa_6-C-Xaa_2-C RING zinc finger motif (SEQ ID NO: 10) reviewed in Clem *et al.*, Cell